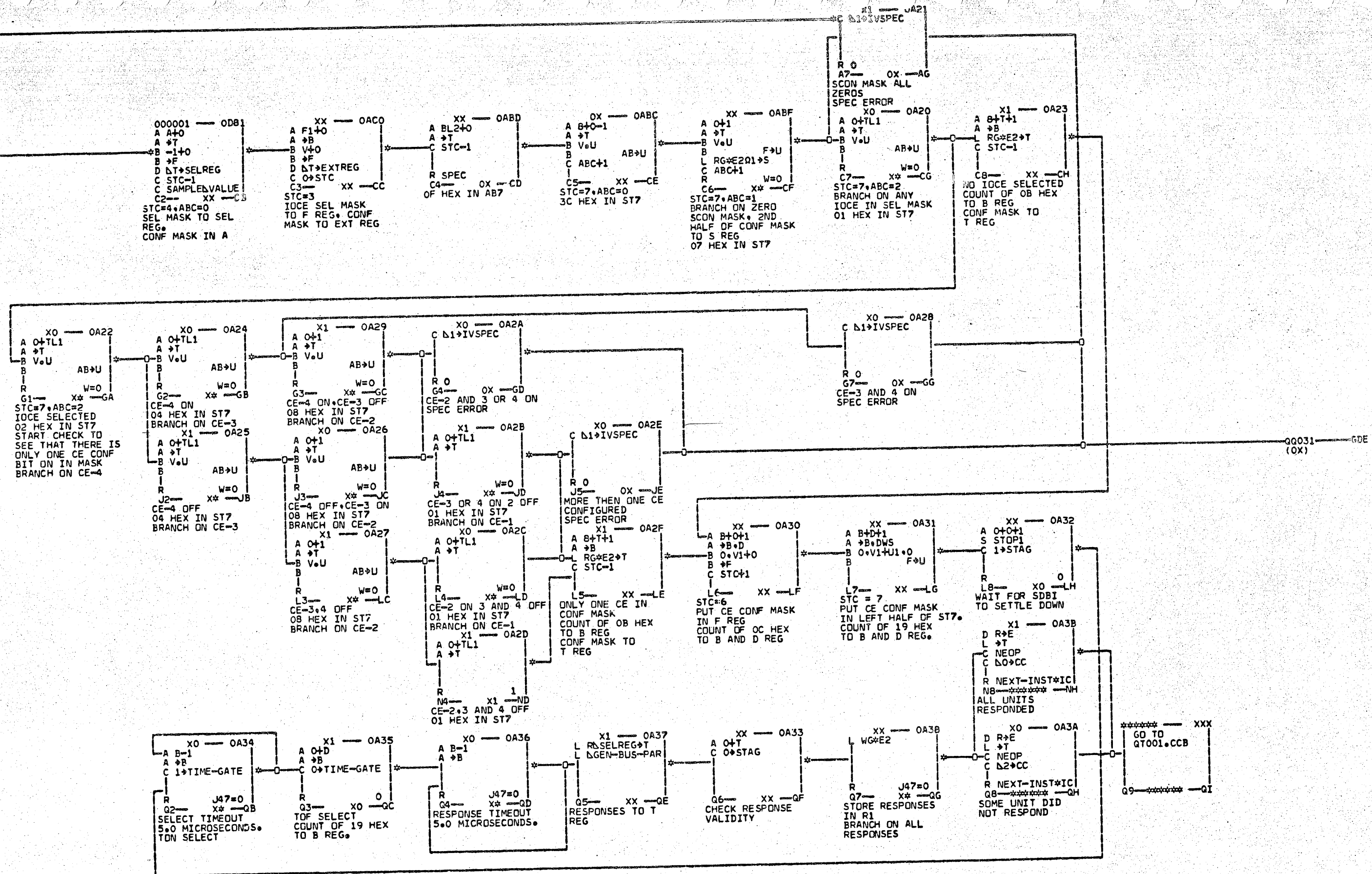


ET CONFIGURATION  
REGISTER  
SCON  
TOS1.AAE  
0000011



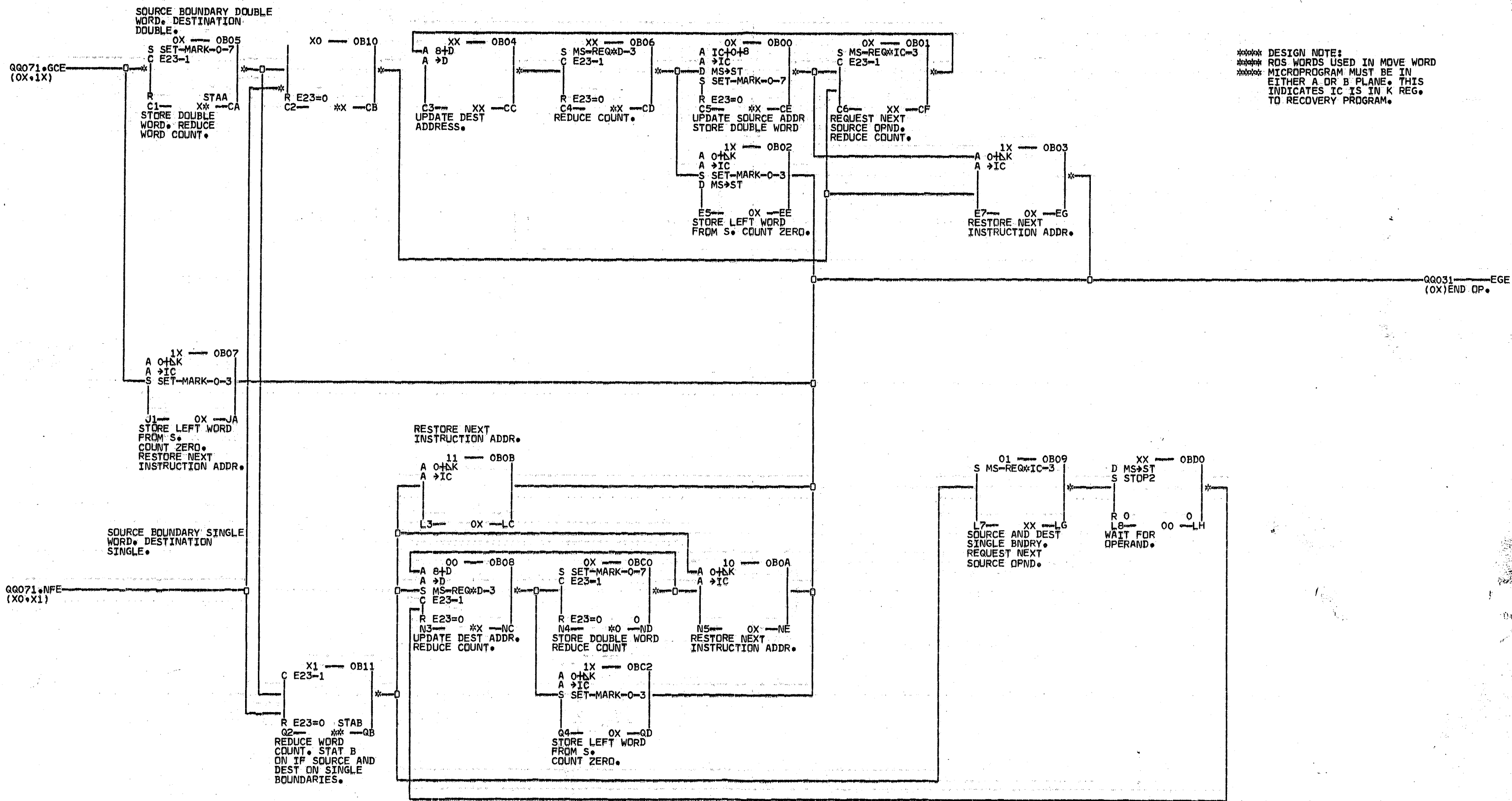


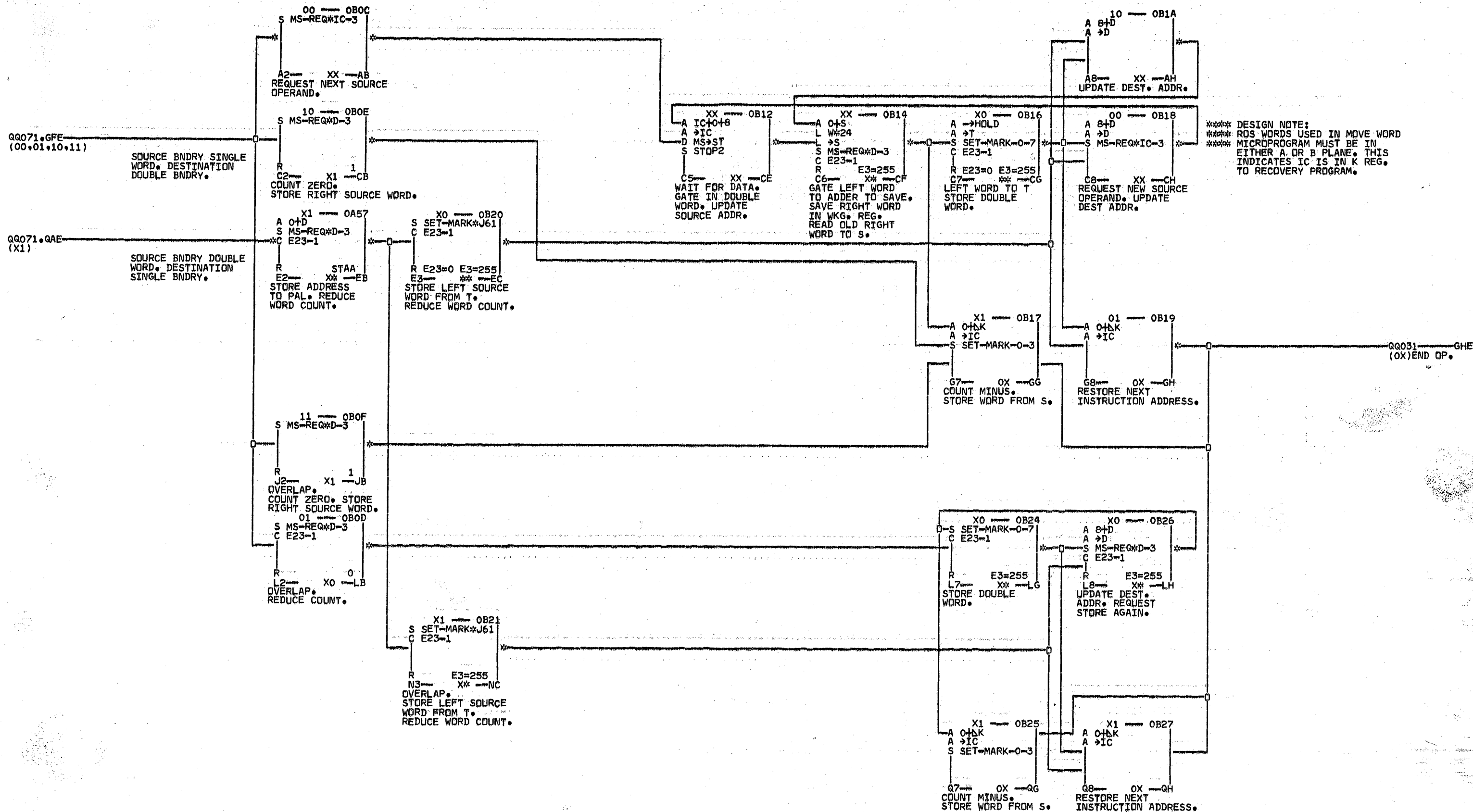












713671  
714952  
717117

04/28/70  
01/26/71  
06/24/72

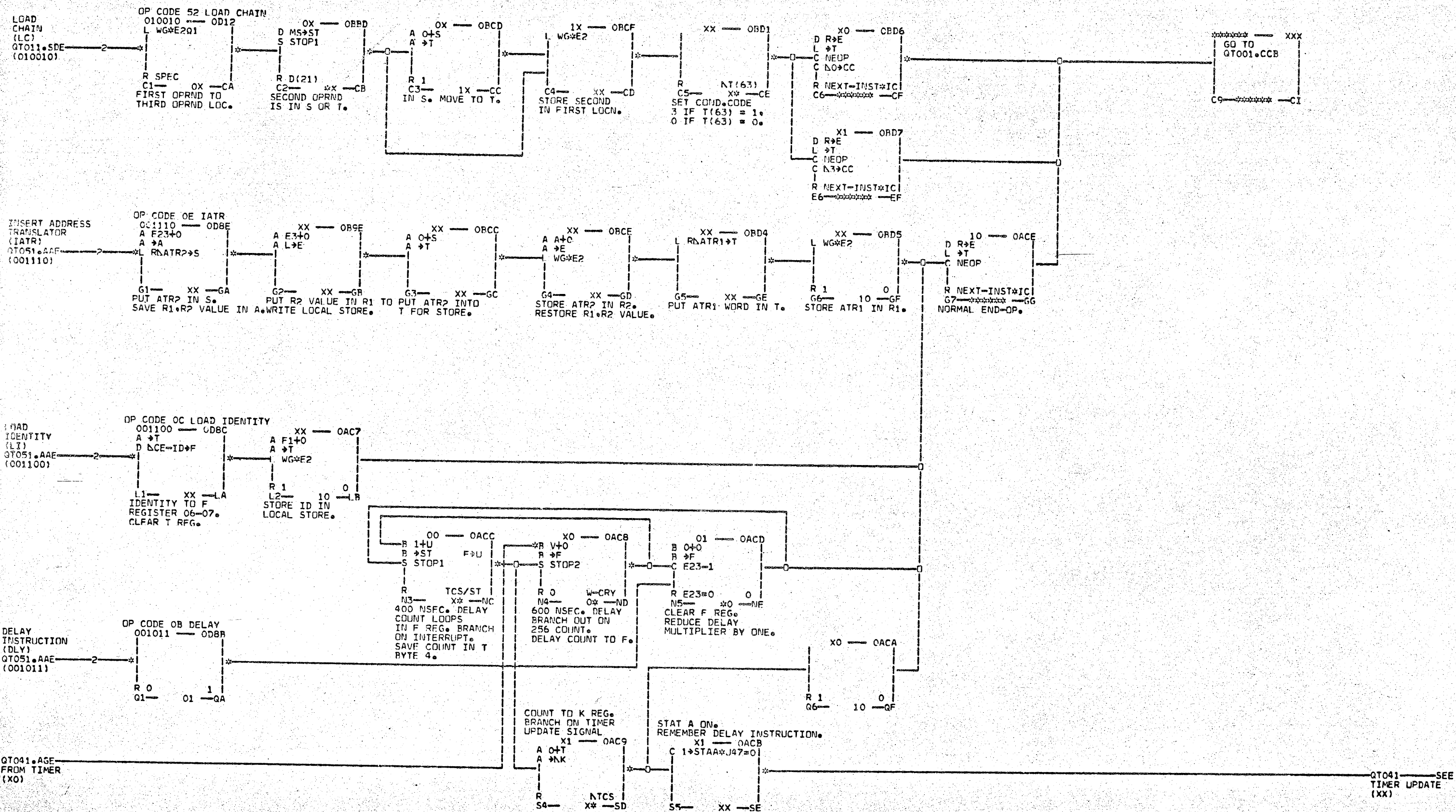
MACH  
NAME  
MODE  
P.N.  
IBM CORP.

C7201-02  
MANUAL  
2583844  
SDD

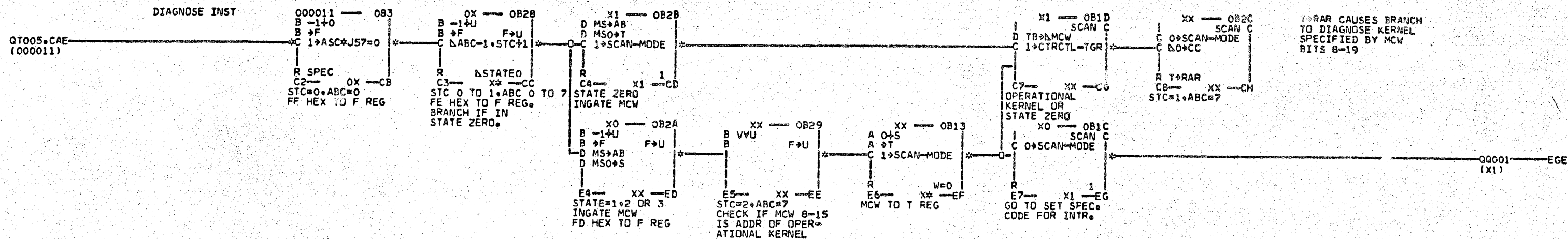
DATE 05/22/72  
LOG 897

SHEET 1  
VERSION 00091

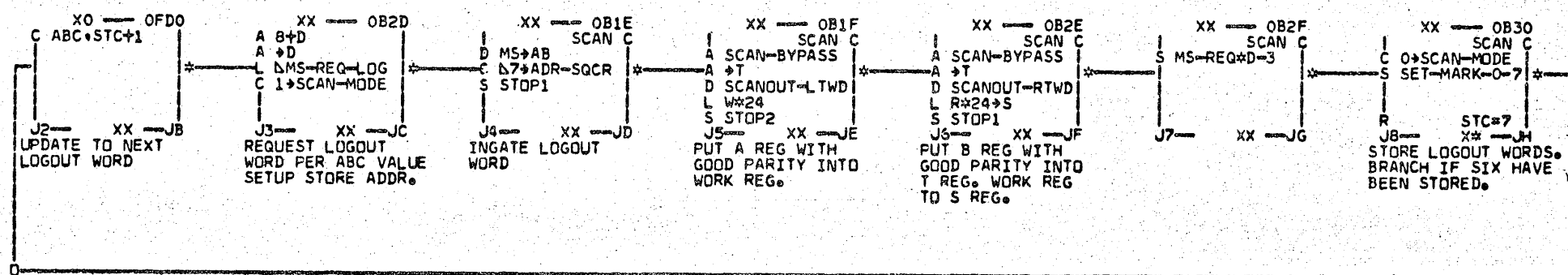
MOVE WORD INSTRUCTION SHEET 3



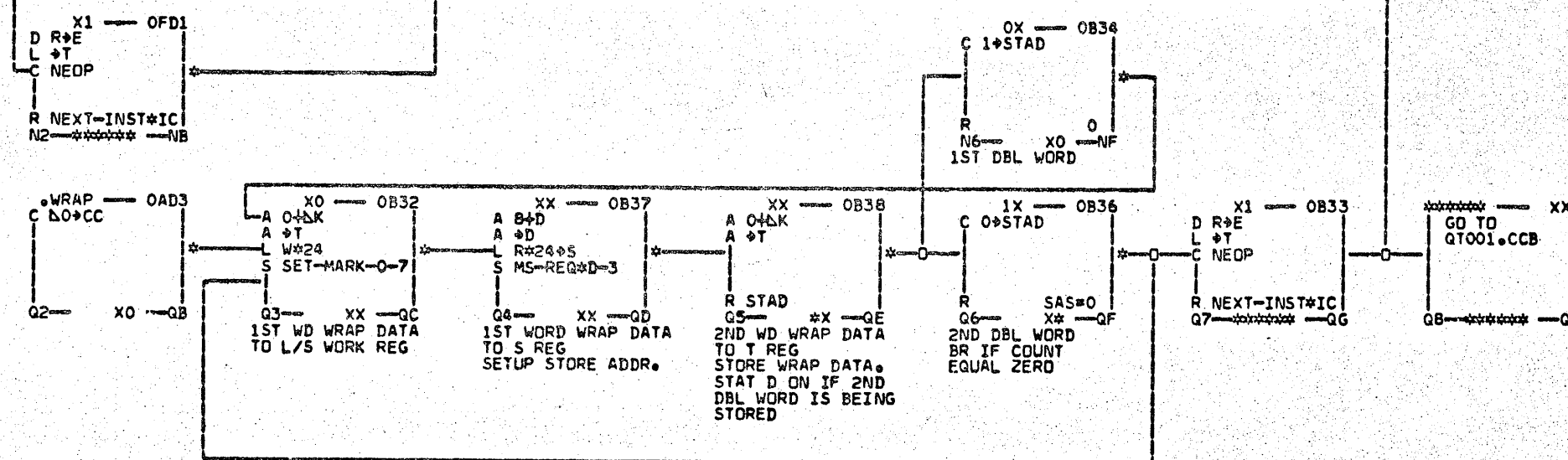




LOGOUT MAIN STORAGE  
DIAGNOSE KERNEL  
ENTRY IS FROM  
DIAGNOSE INST  
Q0171.CH



RESET CHECKS  
DIAGNOSE KERNEL  
ENTRY IS FROM  
DIAGNOSE INST  
Q0171.CH



WRAP  
DIAGNOSE KERNEL  
ENTRY IS FROM  
DIAGNOSE INST  
Q0171.CH

• LDLS OFD2  
A 0-B  
A +E  
C Δ13→ADR-SQCR  
R 0  
C2 24 TO REG  
00 CB 11-15  
C3 23 TO E REG  
XX CC 11-15  
OB3C  
E23=1  
OB31  
XX OB31  
A 8+D  
A +D  
R \*E11-15→S  
R 0  
C4 0X CD  
READ L/S REG PER  
E11-15 INTO S REG  
SETUP STORAGE  
ADDRESS  
0X OBC1  
1→SCAN-MODE  
C5 XX CE  
XX OB35  
SCAN C  
A SCAN-BYPASS  
A +T  
D SCANOUT-LTWD  
L W24  
S STOP2  
C6 XX CF  
WAIT FOR IND  
LINES TO BECOME  
STABLE. PARITY  
BITS FROM L/S REG  
TO WORK REG.  
XX OB39  
SCAN C  
A SCAN-BYPASS  
A +T  
D SCANOUT-SREG  
L R\*24→S  
S STOP1  
C7 XX CG  
XX OB45  
SCAN C  
S MS-REG=D-3  
R E2=15  
C8 XX CH  
STORE CONTENTS OF  
L/S REG AND ITS  
PARITY BITS.  
BRANCH IF FLT PT  
REG.  
XX OB44  
SCAN C  
S SET-MARK=0-7  
0→SCAN-MODE  
R E3=0 STAH  
C9 XX CI  
GPR OR FAA REG

[illegible]

Timing diagram for the R0 register. The diagram shows two clock cycles. In the first cycle, the R0 register is loaded with the value 0x0000. In the second cycle, the R0 register is loaded with the value 0x0001. The diagram also shows the R0 register output and the R0 register address.

```

•LDRG — OFD7
A 0+1
A →E
C 1→STAH
C D13→ADR-SQCR
N2 — XX — NB

XX — OBA6
A 8+D
A →D
D ΔPIR→F
S MS-REG→D-3
C 3→STC
Q2 — XX — QB

XX — OBA7
B 0+U
B →ST
F→U
S SET-MARK→STC
Q3 — XX — QC

10 — OB42
L RACKREG2→S
L NGEN-BUS-PAR
C 1→STAG
R 0
N4 — OX — ND

11 — OB43
A →E
L RATTR1→S
C 0→STAD
R 0
Q4 — OX — QD

XX — OB47
A 8+D
A →D
L RACKR→S
R 0
S4 — OX — SD

```

```

graph LR
    A[A] -- "STDM OFD3  
B+D  
A+D  
S MS-REQ#D-3" --> J6[J6]
    J6 -- "XX JF" --> J7[J7]
    J7 -- "D MSO+T  
S STOP2" --> J8[J8]
    J8 -- "XX JG" --> J9[J9]
    J9 -- "R 1  
J8 10 0 JH" --> JI[JI]
    JI -- "R NEXT-INST#IC  
J9 *****" --> JI
    
    A -- "XX OB4B" --> D[D]
    D -- "O+T  
D T+DARMSK" --> J8
    D -- "XX OB4B" --> R[R]
    R -- "D RE  
T+T  
C NEOP" --> JI
    R -- "10 OB3E" --> JI
  
```

A STDM OFD3  
 B+D  
 A+D  
 S MS-REQ#D-3  
 J6 XX JF  
 J7 D MSO+T  
 S STOP2  
 J8 XX JG  
 J9 R 1  
 J8 10 0 JH  
 JI R NEXT-INST#IC  
 J9 \*\*\*\*\*  
 JI

XX OB4B  
 D O+T  
 D T+DARMSK  
 XX OB4B  
 D RE  
 T+T  
 C NEOP  
 10 OB3E

FETCH DAR MASK  
 FROM WORD  
 CHECK VALIDITY OF  
 DAR MASK

FOLLOWING MCW  
 A SDAR — OFD4  
 A 0+D  
 A 0+D  
 L R DAR+S  
 L GEN=BUS=PAR  
 S MS=REQ=D-3  
 L6 — XX — LF  
 A 0+S  
 S SET=MARK-0-3  
 R 1  
 L7 — 10 — LG  
 STORE DAR IN  
 WORD FOLLOWING  
 XX — OB49  
 \*\*\*\*\* XXX  
 GO TO  
 QT001.CCB  
 L9 — \*\*\*\*\* — LI

```

      MCW
      XX — OB4A
A  DEFS — OFDS
A  B+D
A  +D
D  LSE-DEF+F
S  MS-REQ+D-3
C  3+STC
N6 — XX — NF
      *—O—S SET-MARK+STC
      R 1
      N7 — 10 — NG
      STORE IN BYTE 3
      OF WORD FOLLOWING

```

MCW

A  $\Delta$ SPIR — OFD6

B  $\Delta$ D

C  $\Delta$ D

D  $\Delta$ PIR  $\rightarrow$  F

E MS-REQ  $\Delta$  D-3

F 3  $\rightarrow$  STC

G Q6 — XX — OF

# RADAR AND BEACON INITIALIZATION, BEACON HEADER ANALYSIS.

GPRS 12,13 UNLOADED INTO STORAGE  
WORK AREA STARTING AT SORT  
BIN BASE ADDRESS.  
GPRS WILL BE USED AS WORK REGISTERS  
AND WILL BE RESTORED  
AT END OF INSTRUCTION.

CONVERT AND  
SORT SYMBOLS  
(CSS)  
QT051.AAE  
(000010)  
R1=2 FOR  
BEACON DATA.  
R1=0 FOR  
RADAR OR SS  
DATA.  
QQ211.CIE  
(000010)  
RE-ENTER CSS  
FROM INTERRUPT  
ROUTINE.

QQ251.CHE  
(X1)RADAR  
HEADER PROC-  
ESSED,ABC=0,  
STC=1.

QQ221.EFE  
(X1)DATA RE-  
JECTED BY GEOG  
OR STERILE  
AREA FILTER.  
ABC=7,STC=0.

## CSS LOCAL STORAGE ASSIGNMENTS

GPR 0. BIN 0 DISP.BIN 1 DISP.  
GPR 1. BIN 2 DISP.BIN 3 DISP.  
GPR 2. BIN 4 DISP.BIN 5 DISP.  
GPR 3. BIN 6 DISP.BIN 7 DISP.  
GPR 4. BIN 8 DISP.BIN 9 DISP.  
GPR 5. BIN 10 DISP.BIN 11 DISP.  
GPR 6. BIN 12 DISP.BIN 13 DISP.  
GPR 7. BIN 14 DISP.BIN 15 DISP.  
GPR 8.(RADAR)RW.DS IND.SORT BIN BASE  
GPR 9.(BEACON)DS IND.SORT BIN BASE  
GPR 10. BIN OFLOW NO.PRIME ADDRESS  
GPR 11. DATA COUNT.  
GPR 12.(RADAR) CONVERSION CONSTANT  
GPR 13.(BEACON)PVD INDEX,ALT MASK,TYPE  
MASK,CONVERSION CONSTANT  
GPR 14. USED FOR WORK REGS.RESTORED  
GPR 15. BEFORE END OP.  
GPR 16. NOT USED BY  
GPR 17. THIS INSTRUCTION.  
FPR 0. GEOGRAPHIC FILTER(Y0G,X0G)  
FPR 1. GEOGRAPHIC FILTER(Y1G,X1G)  
FPR 2. STERILE AREA 1 FILTER(Y0S1,X0S1)  
FPR 3. STERILE AREA 1 FILTER(Y1S1,X1S1)  
FPR 4. STERILE AREA 2 FILTER(Y0S2,X0S2)  
FPR 5. STERILE AREA 2 FILTER(Y1S2,X1S2)  
FPR 6. STERILE AREA 3 FILTER(Y0S3,X0S3)  
FPR 7. STERILE AREA 3 FILTER(Y1S3,X1S3)

PVD INDEX  
ANALYSIS.  
BYTE  
01234567  
WORD,BIT

QQ211.AFF  
(X1)INPUT WORD  
COUNT=0,ABC=0,  
STC=1,F=1C.

QQ251.CIE  
(11)RADAR DATA  
RW IND OFF.  
ABC=0,STC=1.  
(10)RADAR DATA  
INSTRUCTION  
RE-ENTRY.  
PROCESS UDD  
WORD,F=0C.  
ABC=0,STC=1.

QQ211.GCE  
(X1)BEACON  
DATA,INVALID  
HEADER FORMAT.  
ABC=1,STC=2.

QQ221.JIE  
(X0)BEACON  
OR RADAR  
DATA,TO GEO-  
GRAPHIC FILTER  
ABC=7,STC=3,  
F=CX.

QQ211.QHE  
(X1)LAST  
DATA BLOCK  
PROCESSED.

QQ211.QGE  
(X1)INTERRUPT  
PENDING.

713671

04/28/70

MACH  
NAME  
MODE  
P.N.  
IBM CORP.

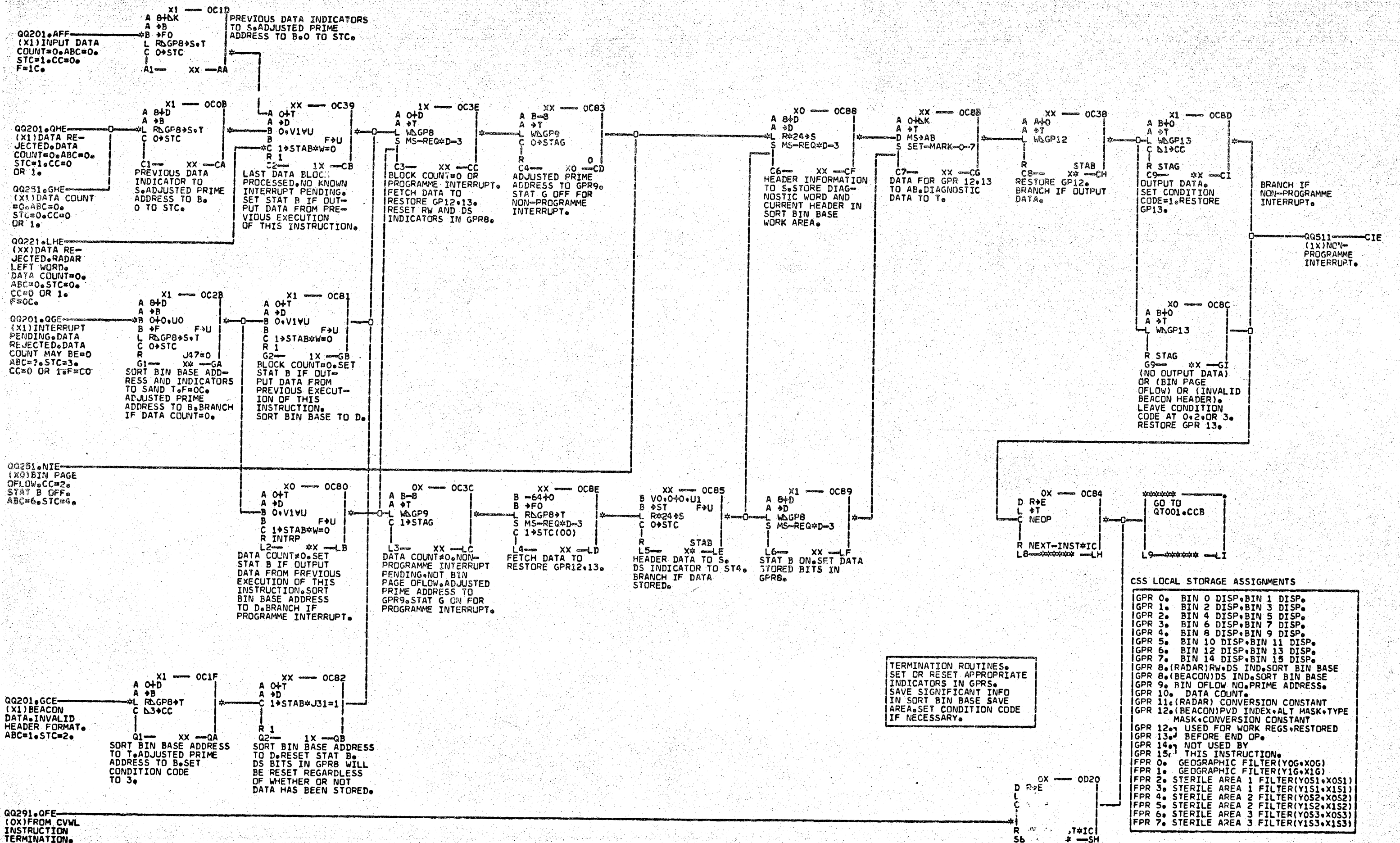
C7201-02  
MANUAL  
2583848  
SDD

DATE 05/21/70  
LOG 048

SHEET 1 QQ201

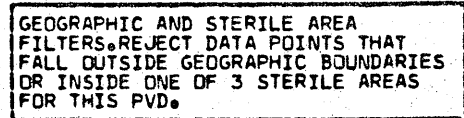
CSS INSTRUCTION INITIALIZATION  
AND BEACON HEADER PROCESSING.







K REGISTER USED TO SAVE DATA  
FOR DIAGNOSTIC PROGRAMME USE.



```

CSS LOCAL STORAGE ASSIGNMENTS
GPR 0.  BIN 0 DISP. BIN 1 DISP.
GPR 1.  BIN 2 DISP. BIN 3 DISP.
GPR 2.  BIN 4 DISP. BIN 5 DISP.
GPR 3.  BIN 6 DISP. BIN 7 DISP.
GPR 4.  BIN 8 DISP. BIN 9 DISP.
GPR 5.  BIN 10 DISP. BIN 11 DISP.
GPR 6.  BIN 12 DISP. BIN 13 DISP.
GPR 7.  BIN 14 DISP. BIN 15 DISP.
GPR 8. (RADAR) RW DS IND. SORT BIN BASE
GPR 8. (BEACON) DS IND. SORT BIN BASE
GPR 9.  BIN OFLOW NO. PRIME ADDRESS.
GPR 10. DATA COUNT.
GPR 11. (RADAR) CONVERSION CONSTANT
GPR 12. (BEACON) PVD INDEX * ALT MASK * TYPE
        MASK CONVERSION CONSTANT
GPR 12.  USED FOR WORK REGS. RESTORED
GPR 13.  BEFORE END OP.
GPR 14.  NOT USED BY
GPR 15.  THIS INSTRUCTION.
FPR 0.  GEOGRAPHIC FILTER (YOG, XOG)
FPR 1.  GEOGRAPHIC FILTER (Y1G, X1G)
FPR 2.  STERILE AREA 1 FILTER (YOS1, XOS1)
FPR 3.  STERILE AREA 1 FILTER (Y1S1, X1S1)
FPR 4.  STERILE AREA 2 FILTER (YOS2, XOS2)
FPR 5.  STERILE AREA 2 FILTER (Y1S2, X1S2)
FPR 6.  STERILE AREA 3 FILTER (YOS3, XOS3)
FPR 7.  STERILE AREA 3 FILTER (Y1S3, X1S3)

```

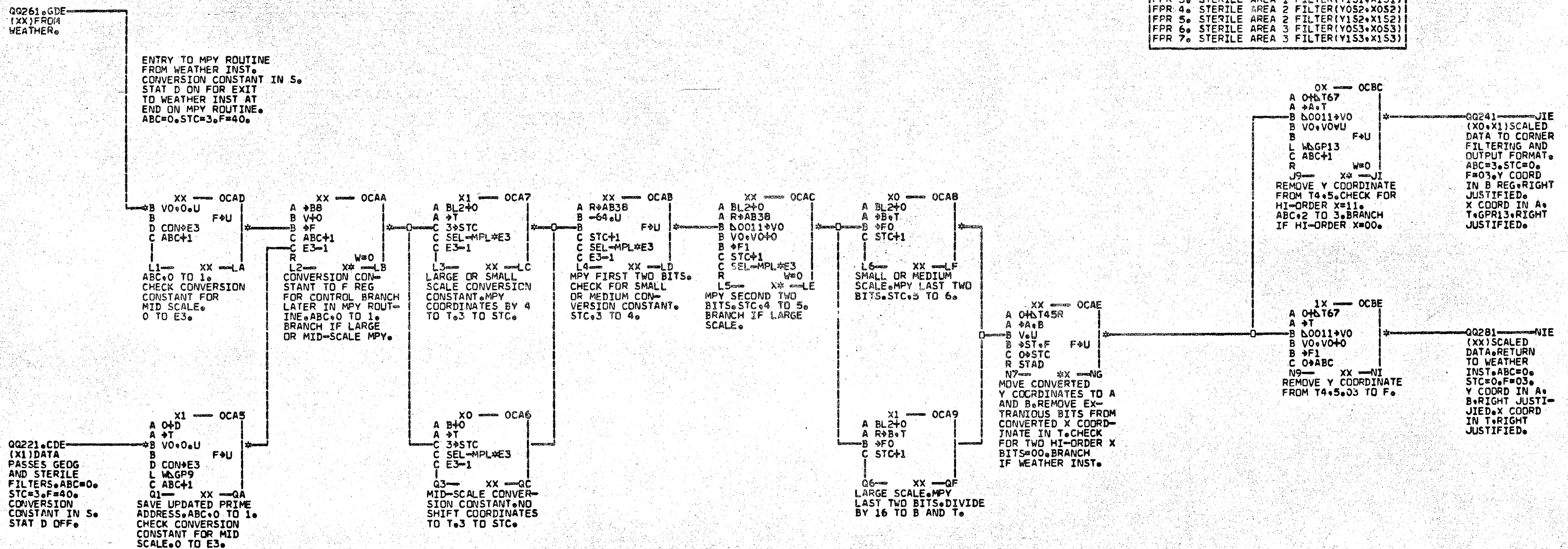
CONVERT DATA POINT FROM  
SYSTEM SCALE TO PVD  
SCALE. RESULT WILL BE  
10 BIT X COORDINATE AND  
10 BIT Y COORDINATE.  
THIS ROUTINE ALSO USED  
BY CVWL INSTRUCTION.

## CSS LOCAL STORAGE ASSIGNMENTS

```

GPR 0.  BIN 0 DISP.BIN 1 DISP.
GPR 1.  BIN 2 DISP.BIN 3 DISP.
GPR 2.  BIN 4 DISP.BIN 5 DISP.
GPR 3.  BIN 6 DISP.BIN 7 DISP.
GPR 4.  BIN 8 DISP.BIN 9 DISP.
GPR 5.  BIN 10 DISP.BIN 11 DISP.
GPR 6.  BIN 12 DISP.BIN 13 DISP.
GPR 7.  BIN 14 DISP.BIN 15 DISP.
GPR 8.  (RADAR)RWDS IND.SORT BIN BASE
GPR 9.  (BEACON)DS IND.SORT BYN BASE
GPR 9.  BIN OFLOW NO.PRIME ADDRESS.
GPR 10.  DATA COUNT.
GPR 11.  (RADAR) CONVERSION CONSTANT
GPR 12.  (BEACON)PVD INDEX.ALT MASK.TYPE
        MASK.CONVERSION CONSTANT
GPR 12.  USED FOR WORK REGS.RESTORED
GPR 13.  BEFORE END OP.
GPR 14.  NOT USED BY
GPR 15.  THIS INSTRUCTION.
FPR 0.  GEOGRAPHIC FILTER(YOG,XOG)
FPR 1.  GEOGRAPHIC FILTER(Y1G,X1G)
FPR 2.  STERILE AREA 1 FILTER(Y0S1,X0S1)
FPR 3.  STERILE AREA 1 FILTER(Y1S1,X1S1)
FPR 4.  STERILE AREA 2 FILTER(Y0S2,X0S2)
FPR 5.  STERILE AREA 2 FILTER(Y1S2,X1S2)
FPR 6.  STERILE AREA 3 FILTER(Y0S3,X0S3)
FPR 7.  STERILE AREA 3 FILTER(Y1S3,X1S3)

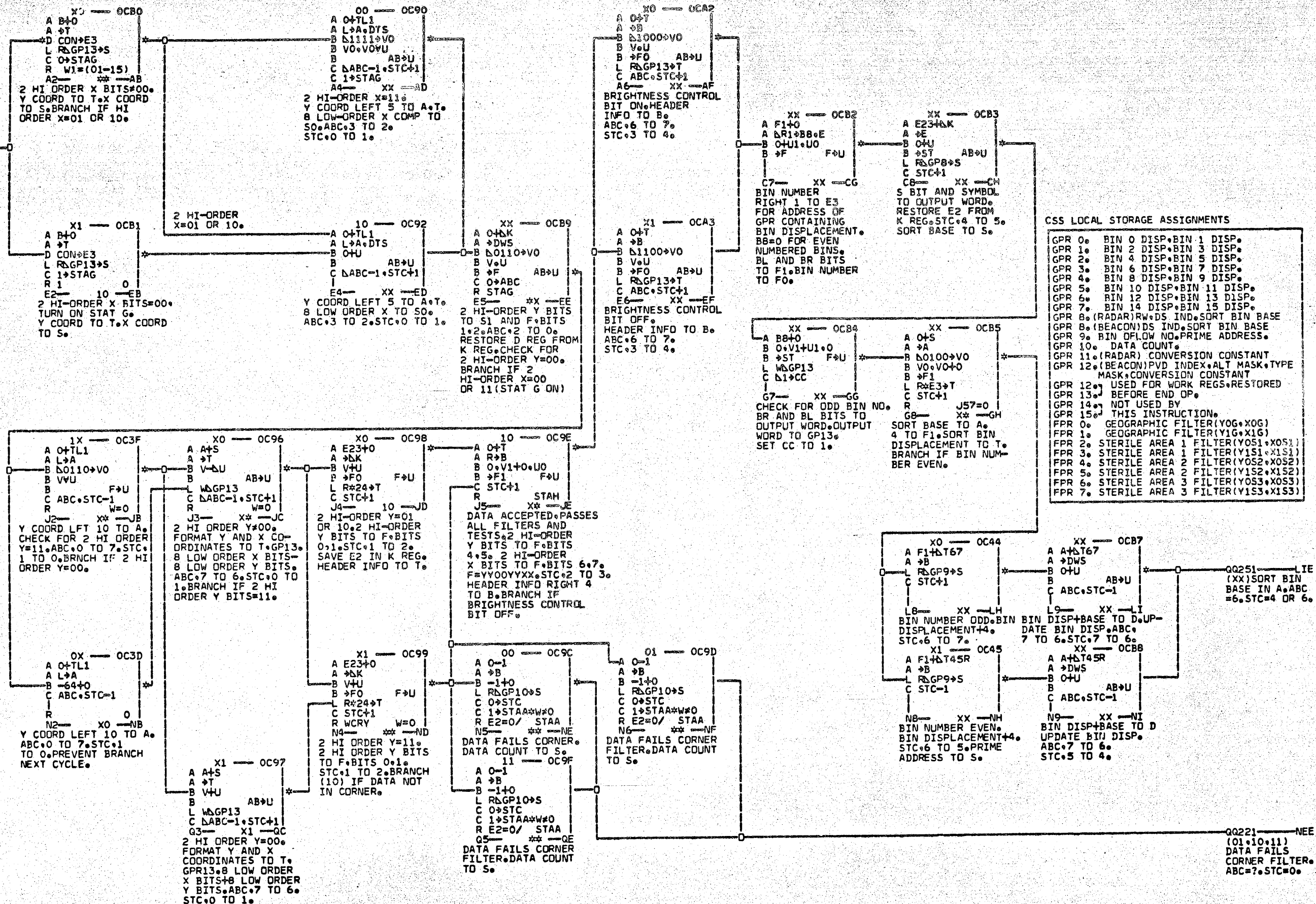
```





QQ231 JIE  
(X0,X1) SCALED  
DATA ABC=3.  
STC=0.F=03.  
Y COORD IN B.  
X COORD IN A.  
T.GP13.

REJECT DATA POINTS THAT  
FALL IN PVD CORNERS. FORMAT  
HEADER INFO AND SCALED  
Y,X COORDINATES INTO OUT-  
PUT FORMAT. DETERMINE BIN  
NUMBER INTO WHICH OUTPUT  
DATA WORD WILL BE SORTED  
(BIN NUMBER=2 HI-ORDER  
BITS OF Y AND X (YYXX)).  
ADD BIN ADDRESS DISPLACE-  
MENT PER BIN NUMBER TO SORT  
BIN BASE TO DETERMINE NEXT  
VACANT LOCATION IN OUTPUT  
BIN.





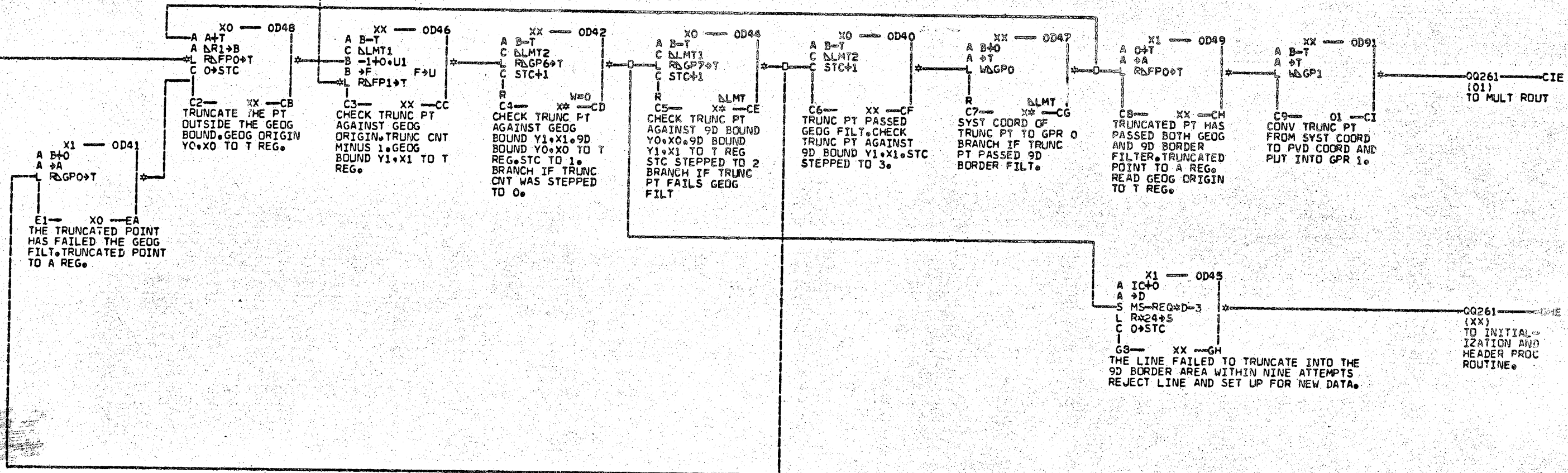




QQ261.GHE  
(XX)  
FROM GEOD AND  
STERILE AREA  
FILTERING.

QQ261.QFE  
(X0)  
FROM GEOD AND  
STERILE AREA  
FILTERING.

EXIT TO MULT ROUT VIA QQ261 AND MULT  
THE MAJOR POSITION FIRST BY THE  
CONSTANT IN GPR 11 FOLLOWED BY A  
MULT OF THE SECONDARY POSITION.



TRUNCATION IS THE ADDITION OF A POINT OUTSIDE THE GEOGRAPHIC BOUNDARY WITH A POINT INSIDE THE GEOGRAPHIC BOUNDARY AND HALVING THE RESULT. BOTH THE Y AND X COMPONENTS OF EACH POINT WILL BE TRUNCATED IN THE SAME OPERATION AND THE RESULTS OF WHICH WILL BE PLACED INTO THE B REG.

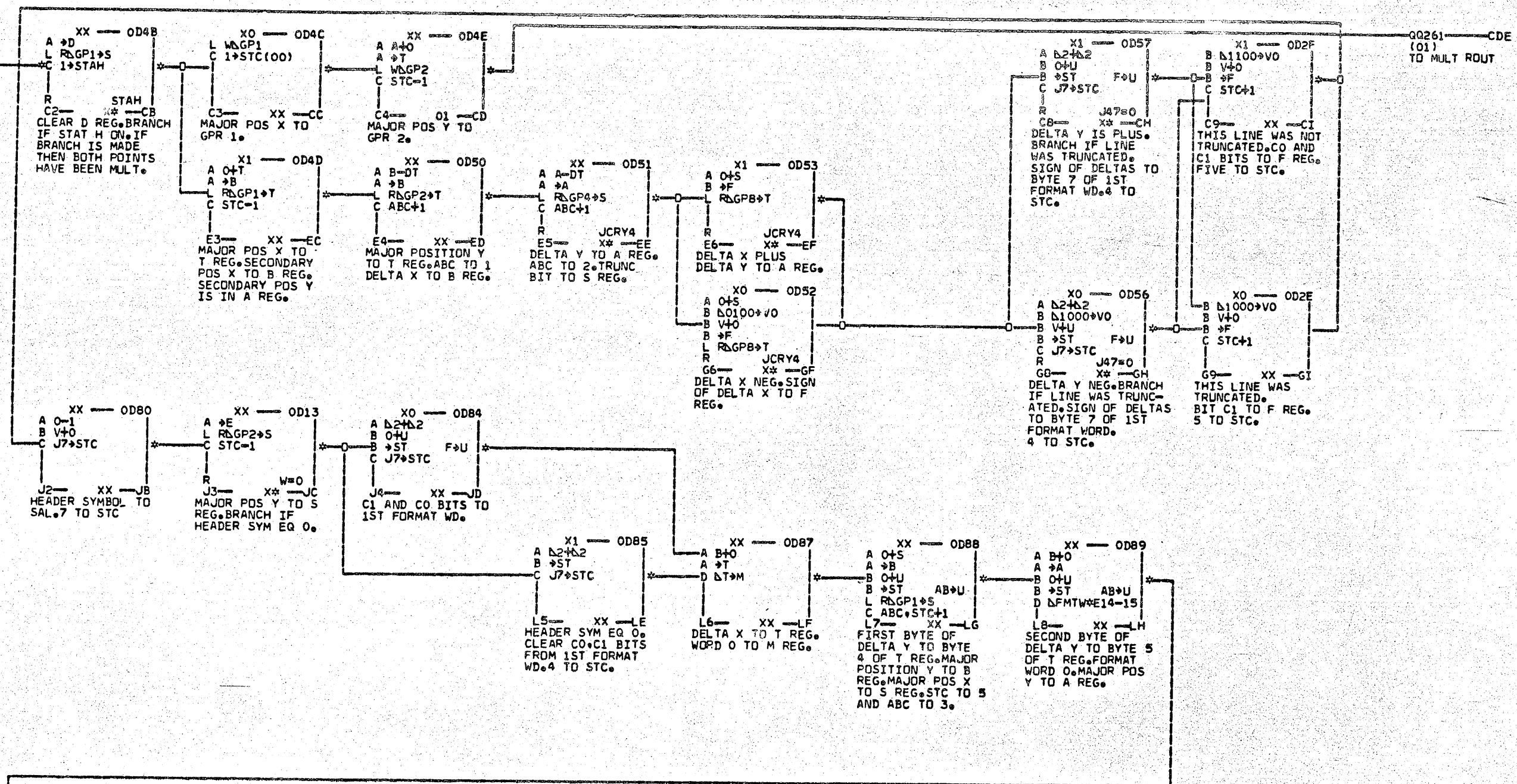
THE PURPOSE OF TRUNCATION IS TO RETURN A PT WHICH LIES OUTSIDE THE GEO BOUN OF A PVL TO SOME PT WITHIN THE GEOG BOUND AND THE 9D BORDER OF THE PVD. THE ABOVE HALVING FUNCTION IS APPLIED. A MAXIMUM OF NINE ATTEMPTS ARE MADE TO RETURN THE POINT TO THE PVD AREA. IF TRUNCATION IS NOT SUCCESSFUL AFTER THESE ATTEMPTS THEN THE LINE WILL BE REJECTED.

#### CVWL GPR ASSIGNMENTS.

GPR0 WORKING REGISTER.  
GPR1 WORKING REGISTER.  
GPR2 WORKING REGISTER.  
GPR3 WORKING REGISTER.  
GPR4 WORKING REGISTER.  
GPR5 NEXT ADDRESS IN REFRESH.  
GPR6 0.9D BORDER REGION-Y1.X1.  
GPR7 0.9D BORDER REGION-Y2.X2.  
GPR8 WORKING REGISTER.  
GPR9 NEXT DBL WD ADDRESS IN PRIME.  
GPR10 DOUBLE WORD COUNT.  
GPR11 CONVERSION CONSTANT.  
FPR0 GEOGRAPHIC AREA-Y1.X1.  
FPR1 GEOGRAPHIC AREA-Y2.X2.  
FPR2 STERILE AREA NO. 1-Y1.X1.  
FPR3 STERILE AREA NO. 1-Y2.X2.  
FPR4 STERILE AREA NO. 2-Y1.X1.  
FPR5 STERILE AREA NO. 2-Y2.X2.  
FPR6 STERILE AREA NO. 3-Y1.X1.  
FPR7 STERILE AREA NO. 3-Y2.X2.

EXIT HERE TO MULTIPLY THE SECONDARY POSITION BY THE CONSTANT CONTAINED IN THE S REG.

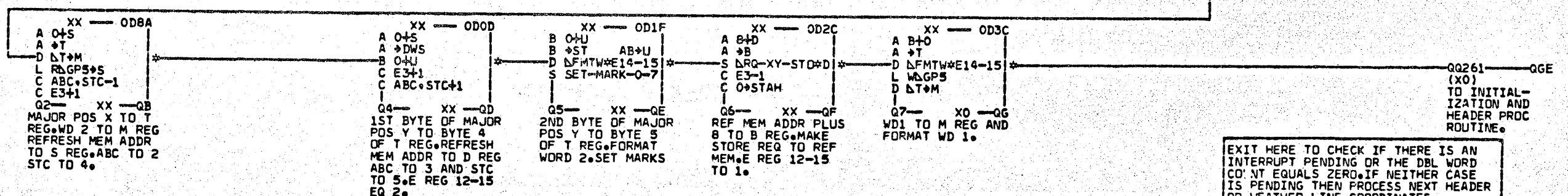
QQ231-NIE  
(XX) FROM MULT-  
IPLY ROUTINE.  
ABC=0  
STC=0, F=03  
Y COOR IN A,  
B, X COOR IN T



A SUBTRACTION OF THE MAJOR POSITIONS FROM THE SECONDARY POSITIONS RESULT IN THE DELTA Y AND X COMPONENTS OF THE WEATHER LINE. THE FORMATING OF THE WEATHER LINE WILL BE DONE IN 3 OPERATIONS. THE BR, B, D, DL, SYM, SY, SX, CO, AND C1 ON THE 1ST OPERATION. THE DELTA Y AND X ON THE 2ND FMT OPER. THE MAJOR POSITION Y AND X WILL BE FMT ON THE 3RD AND FINAL OPERATION.

# CVWL GPR ASSIGNMENTS

GPR0 WORKING REGISTER.  
GPR1 WORKING REGISTER.  
GPR2 WORKING REGISTER.  
GPR3 WORKING REGISTER.  
GPR4 WORKING REGISTER.  
GPR5 NEXT ADDRESS IN REFRESH.  
GPR6 0.9D BORDER REGION-Y1.X1.  
GPR7 0.9D BORDER REGION-Y2.X2.  
GPR8 WORKING REGISTER.  
GPR9 NEXT DBL WD ADDRESS IN PRIME.  
GPR10 DOUBLE WORD COUNT.  
GPR11 CONVERSION CONSTANT.  
FPR0 GEOGRAPHIC AREA-Y1.X1.  
FPR1 GEOGRAPHIC AREA-Y2.X2.  
FPR2 STERILE AREA NO. 1-Y1.X1.  
FPR3 STERILE AREA NO. 1-Y2.X2.  
FPR4 STERILE AREA NO. 2-Y1.X1.  
FPR5 STERILE AREA NO. 2-Y2.X2.  
FPR6 STERILE AREA NO. 3-Y1.X1.  
FPR7 STERILE AREA NO. 3-Y2.X2.



EXIT HERE TO CHECK IF THERE IS AN INTERRUPT PENDING OR THE DBL WORD CO'NT EQUALS ZERO. IF NEITHER CASE IS PENDING THEN PROCESS NEXT HEADER OR WEATHER LINE COORDINATES.

713671

04/28/70

MACH  
NAME  
MODE  
P.N.  
IBM CORP.

C7201-02  
MANUAL  
2583856

DATE 05/21/70  
LOG 048  
WEATHER-DELTA

SHEET 1  
VERSION  
QQ281



CONVERT WEATHER LINES (CVWL)  
 Q051.AAE — 2 — \*B Δ1000ΔV0  
 (000011)  
 Q0511.AIE — \*B ΔF  
 (000011)  
 RE-ENTER CVWL FROM INTERRUPT ROUTINE.

000011 — OD83  
 A O+T  
 A ΔD  
 \*B Δ1000ΔV0  
 B V+0  
 C O+STC  
 S MS-REQΔD-3  
 C1 — XX — CA  
 ADDR OF NEXT DATA WD IN PRIME TO D REG AND MAKE FETCH REQ. CONSTANT 8 TO BITS 0-3 OF F REG

XX — OD00  
 A IC+0  
 A ΔT  
 L WΔ24  
 S STOP1  
 C O+STC  
 C2 — XX — CB  
 INSTR ADDR TO WORKING REG.

THE SYMBOL D, DL, B, AND BL INFO IS TAKEN FROM THE HEADER DBL WD AND PUT INTO GPR8. IF THE DBL WD BEING PROCESSED IS NOT A HEADER WD THEN IT IS ASSUMED THAT WHATEVER IS CONTAINED IN GPR8 IS THE HEADER INFO ASSOCIATED WITH THAT DATA. WHEN THE PROCESSING OF ONE WEATHER LINE IS COMPLETED, PROVISIONS ARE MADE TO HONOR ANY INTERRUPT THAT MAY BE PENDING

Q0261.AIE (XX)  
 XX — OD1E  
 A O+S  
 L WΔGP4  
 C O+ABC  
 R TCS/ST  
 N1 — XX — NA  
 BRANCH IF INTRP IS PENDING.

ENTRANCE INTO THIS PAGE FROM Q0261 INDICATES THAT A SET OF WEATHER COORDINATES HAVE BEEN PROCESSED.

SYMBOL TO BYTE 5 TO GPR 8. BRANCH IF PROG INTRP.  
 X1 — OD17  
 B O+U  
 B ΔST  
 ABΔU  
 C O+STAG  
 R INTRP  
 L2 — \*0 — LB

XX — OD1E  
 A O+S  
 L WΔGP4  
 C O+ABC  
 R TCS/ST  
 N1 — XX — NA  
 BRANCH IF INTRP IS PENDING.

XX — OD1C  
 A ΔT  
 D MSΔAB  
 L RΔGP10ΔS  
 C O+STC  
 N2 — XX — NB  
 NO INTERRUPT PENDING

X1 — OD1D  
 L RΔ24ΔS  
 C O+STAG  
 R INTRP J47=0  
 Q2 — \*Δ — QB  
 CHECK IF WORD COUNT EQUALS ZERO.

XX — ODD7  
 A O+S  
 A ΔT  
 B O+U0=0  
 B ΔST  
 L WΔGP4  
 C O+STAG  
 C3 — XX — CC  
 WORD COUNT TO IC CONSTANT 80 TO BYTE 0 OF S REG

XX — OD9B  
 A O+D  
 A ΔT  
 B V+U  
 L WΔGP3  
 C 1ΔSTC(00)  
 R J47=0  
 C4 — XX — CD  
 PRESENT PRIME ADDR TO GPR 3. 4 TO STC. CHECK IF DATA WD IS A HDR.

X0 — OD06  
 A B+D  
 A ΔD  
 C ΔS12CRYΔDLT  
 R WΔCRY  
 C5 — XX — CE  
 UPDATE PRIME ADDR BY 8. BRANCH IF DATA WD IS A HDR.

X0 — OD06  
 A B+0  
 A ΔK  
 C 1ΔSTAD  
 C6 — XX — CF  
 DATA WORD WAS NOT A HEADER PUT 2ND POINT IN K REG.  
 X1 — OD07  
 A IC-1  
 A ΔIC.T  
 L WΔGP10  
 C ABC+1  
 E6 — XX — EF  
 WD COUNT MINUS 1 TO IC. ABC TO 1.

XX — OD08  
 A IC-1  
 A ΔT  
 L WΔGP10  
 C7 — XX — CG  
 DBL WORD COUNT MINUS 1 TO GPR 10

X0 — OD0A  
 A ΔE  
 L RΔ24ΔS  
 C STC+1  
 R TCS/ST  
 E8 — XX — EH  
 CLEAR E REG. STC TO 5. BRANCH IF INTERRUPT IS PENDING.

X0 — OD16  
 B O+U  
 B ΔST  
 ABΔU  
 D E3ΔABCΔSTC  
 E9 — X0 — EI  
 SYMBOL TO BYTE 5 OF T REG. ZERO TO ABC AND STC. SAVE D, DL, B, AND SYMBOL IN GPR 8.

SYMBOL DATA TO BYTE 5 OF T REG TO GPR 8.

Q0261 — CGE (XX)  
 TO GEOGRAPHIC AND STERILE AREA FILTER.

X1 — OD05  
 L RΔ24ΔS  
 G5 — 01 — GE  
 WD CNT EQ 0. TERM INATE.

XX — OD54  
 A Δ2ΔL2  
 B O+U  
 B ΔST  
 C J7ΔABC  
 S MS-REQΔD-3  
 R J47=0  
 G6 — XX — GF  
 MOVE D, DL, B, BL BITS TO BYTE 4 OF T REG. ABC TO 4.

CVWL GPR ASSIGNMENTS

- GPR0 WORKING REGISTER.
- GPR1 WORKING REGISTER.
- GPR2 WORKING REGISTER.
- GPR3 WORKING REGISTER.
- GPR4 WORKING REGISTER.
- GPR5 NEXT ADDRESS IN REFRESH.
- GPR6 0.9D BORDER REGION-Y1.X1.
- GPR7 0.9D BORDER REGION-Y2.X2.
- GPR8 WORKING REGISTER.
- GPR9 NEXT DBL WD ADDRESS IN PRIME.
- GPR10 DOUBLE WORD COUNT.
- GPR11 CONVERSION CONSTANT.
- FPR0 GEOGRAPHIC AREA-Y1.X1.
- FPR1 GEOGRAPHIC AREA-Y2.X2.
- FPR2 STERILE AREA NO. 1-Y1.X1.
- FPR3 STERILE AREA NO. 1-Y2.X2.
- FPR4 STERILE AREA NO. 2-Y1.X1.
- FPR5 STERILE AREA NO. 2-Y2.X2.
- FPR6 STERILE AREA NO. 3-Y1.X1.
- FPR7 STERILE AREA NO. 3-Y2.X2.

00 — OD18  
 RΔ24ΔS  
 C 1ΔSTAG  
 J4 — 01 — JD  
 NON PROGRAM INTERRUPT.

01 — OD19  
 A O+S  
 A ΔIC  
 L4 — 0X — LD  
 WORD COUNT EQUAL 0  
 END OP

10 — OD1A  
 A O+S  
 A ΔIC  
 N4 — 0X — ND  
 PROGRAM INTERRUPT  
 END OP

11 — OD1B  
 A O+S  
 A ΔIC  
 Q4 — 0X — QD  
 WORD COUNT EQUAL 0  
 END OP

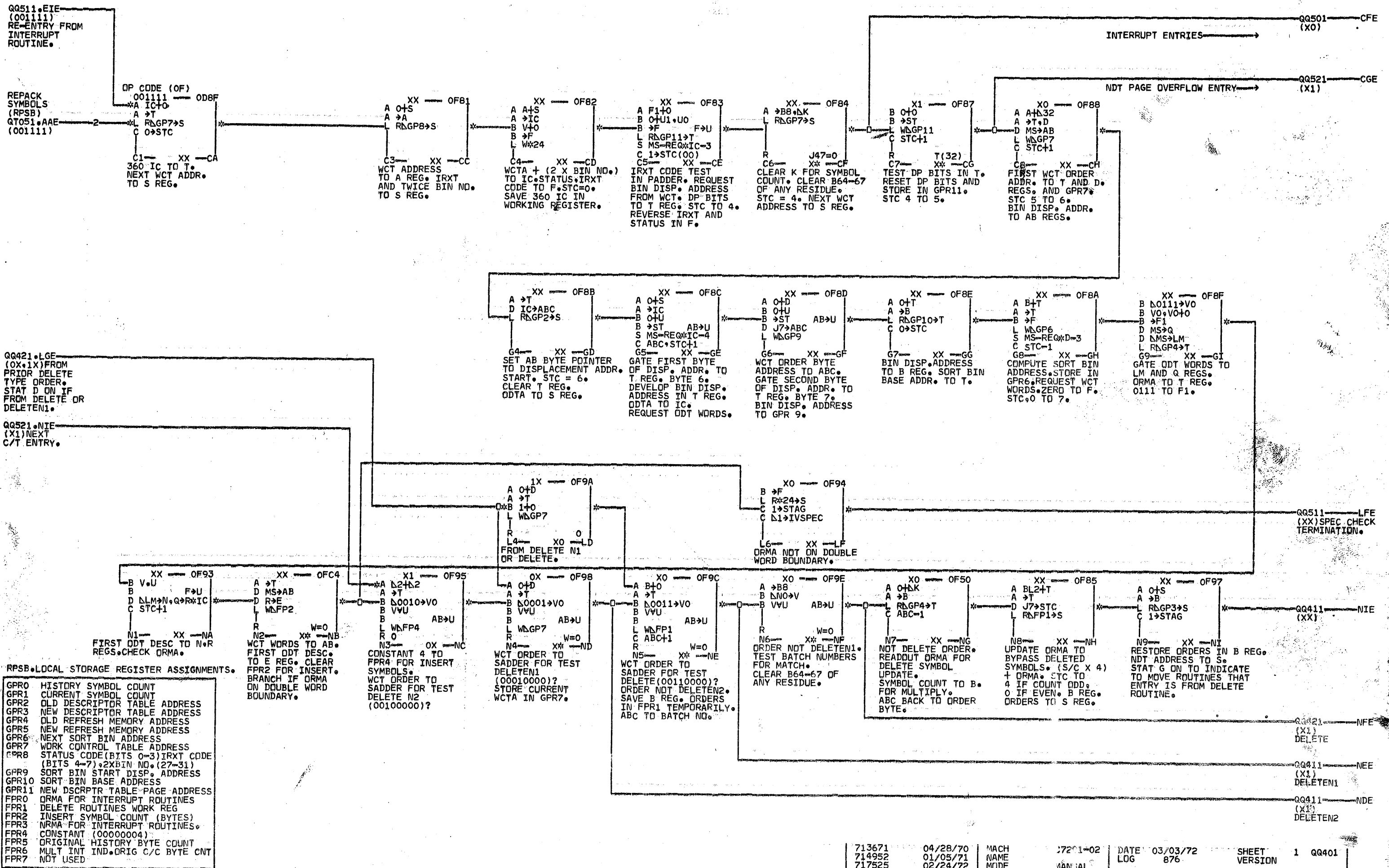
0X — OD11  
 A O+D  
 A ΔT  
 L WΔGP9  
 R STAG  
 Q6 — XX — QF  
 BRANCH ON NON PROG INTERRUPT.

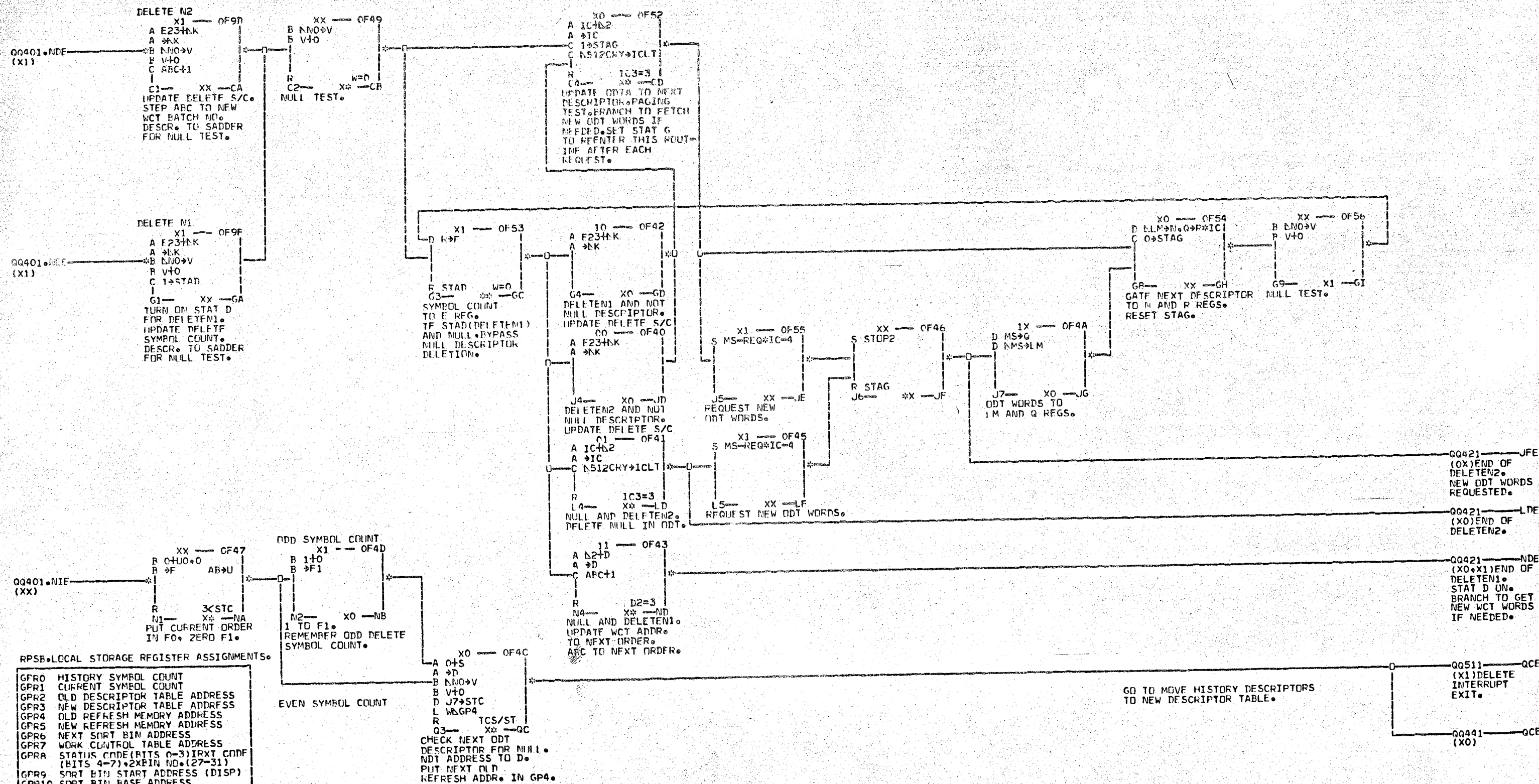
1X — OD22  
 A O+1  
 A ΔK  
 C O+STAG  
 R 0  
 N7 — 0X — NG  
 1 TO K REG. TO BE USED FOR RETURN TO CVWL FROM TCS ROUT. THIS IS NOT A PROG INTERRUPT.

Q0511 — NGE (OX)  
 NON-PROGRAMME INTERRUPT.

Q0211 — QFE (OX)  
 TO END OP







Q  
Q  
4  
1  
1





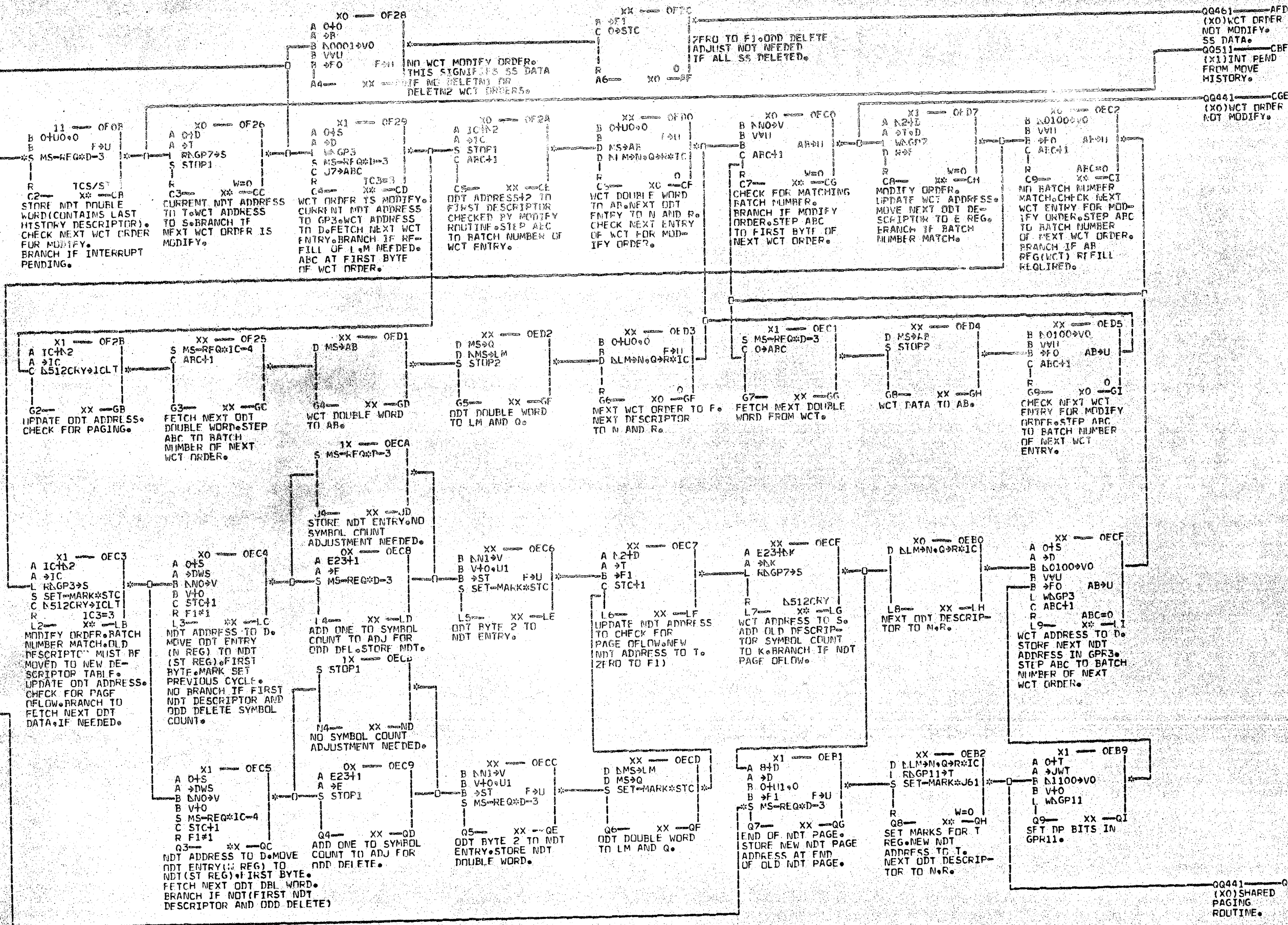
00501:CHF  
X0,X1  
INTERUPT RE-  
ENTRY.

00441:CHF  
(11)FROM MOVE  
HISTORY ROUT-  
INE.

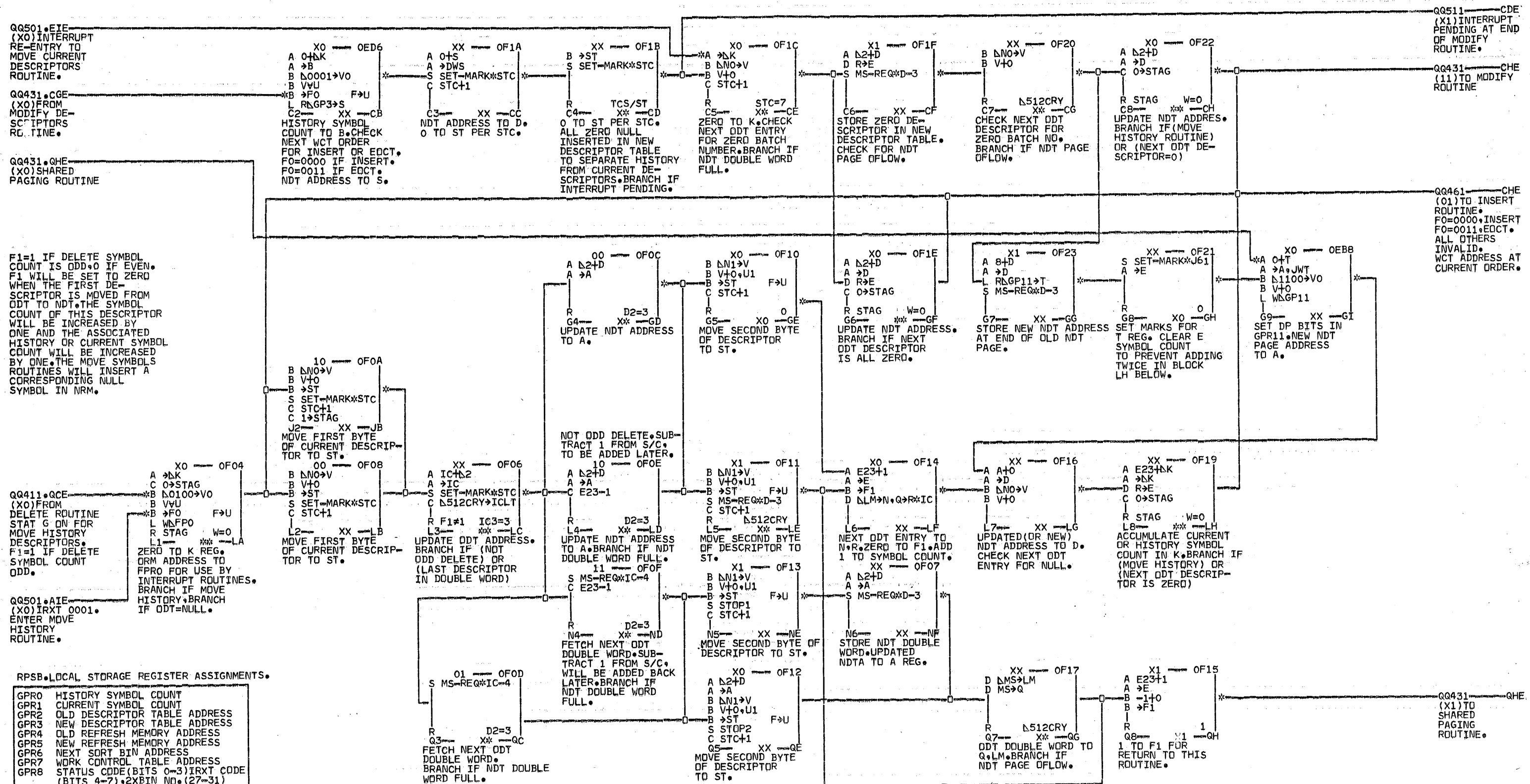
00441:GHE  
(X1)SHARED  
PAGING ROUTINE

# RPSB:LOCAL STORAGE REGISTER ASSIGNMENTS

GPR0	HISTORY SYMBOL COUNT
GPR1	CURRENT SYMBOL COUNT
GPR2	OLD DESCRIPTOR TABLE ADDRESS
GPR3	NEW DESCRIPTOR TABLE ADDRESS
GPR4	OLD REFRESH MEMORY ADDRESS
GPR5	NEW REFRESH MEMORY ADDRESS
GPR6	NEXT SORT RIM ADDRESS
GPR7	WORK CONTROL TABLE ADDRESS
GPR8	STATUS CODE (BITS 0-3)INT CODE (BITS 4-7),2XBIN NO.(27-31)
GPR9	SORT RIM START ADDRESS (DISP)
GPR10	SORT RIM BASE ADDRESS
GPR11	NEW DESCRIPTOR TABLE PAGE ADDRESS
FPR0	OPMA FOR INTERRUPT ROUTINES
FPR1	DELETE ROUTINES WORK REG
FPR2	INSERT SYMBOL COUNT (BYTES)
FPR3	NRMA FOR INTERRUPT ROUTINES
FPR4	CONSTANT (00000004)
FPR5	ORIGINAL HISTORY BYTE COUNT
FPR6	MULT INT IND,ORIG C/C BYTE CNT
FPR7	NOT USED



MOVE HISTORY SYMBOL COUNT TO B.  
CHECK NEXT WCT ORDER FOR INSERT  
OR EDCI. NDT ADDRESS IN T.  
FO=0000 IF INSERT. FO=0011 IF EDCI.







COMING INTO PAGE FROM PAGE  
Q0441.CHE THE FOLLOWING CONDITIONS  
EXIST:

- (1) D REG=NEW DESCRIPTOR TABLE ADDR.
- (2) IC=OLD DESCRIPTOR TABLE ADDR.
- (3) FO=ZERO IF NEXT WCT ORDER IS AN  
INSERT AND FO=THREE IF NEXT ORDER  
IS AN END OF CLASS TYPE. ANY OTHER  
VALUE IN FO INDICATES AN INVALID  
SEQUENCE.
- (4) K REG=CURRENT SYMBOL COUNT.

Q0501.GIF  
(XX) INTERRUPT  
RE-ENTRY TO  
INSERT ROUTINE

Q0431.AFP  
(X) SINGLE  
SYMBOL DATA.

Q0441.CHE  
(1) FROM MOVE  
CURRENT  
DESCRIPTORS  
ROUTINE.  
HISTORY COUNT  
IN B REG.  
CURRENT COUNT  
IN K REG.

Q0471.CHE  
(XX)  
FROM LAST INT  
(INS MORE INS  
ORDERS TO BE  
EXEC IN THIS  
CLASS TYPE.

Q0531 AGE  
(XX)  
TO END OF  
CLASS TYPE  
ROUTINE.

Q0511 CFE  
(XX)  
ILLEGAL  
SEQUENCE  
TERMINATE

Q0511 EPT  
(X1)  
END OF MOVE  
CURRENT DESC  
INTERPRET IS  
PENDING

Q0471 LIE  
(00,01,10)  
BUILD NEW  
DESCRIPTOR

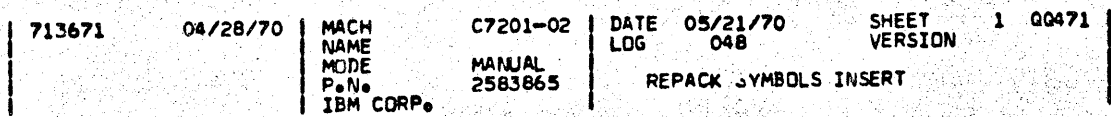
# RPSB LOCAL STORAGE REGISTER ASSIGNMENTS.

GPR0	HISTORY SYMBOL COUNT
GPR1	CURRENT SYMBOL COUNT
GPR2	OLD DESCRIPTOR TABLE ADDRESS
GPR3	NEW DESCRIPTOR TABLE ADDRESS
GPR4	OLD REFRESH MEMORY ADDRESS
GPR5	NEW REFRESH MEMORY ADDRESS
GPR6	NEXT SORT BIN ADDRESS
GPR7	WORK CONTROL TABLE ADDRESS
GPR8	STATUS CODE (BITS 0-3) IRTX CODE (BITS 4-7), 2XBIN NO. (27-31)
GPR9	SORT BIN START ADDRESS (DISP)
GPR10	SORT BIN BASE ADDRESS
GPR11	NEW DESCRIPTOR TABLE PAGE ADDRESS
FPR0	ORMA FOR INTERRUPT ROUTINES
FPR1	DELETE ROUTINES WORK REG
FPR2	INSERT SYMBOL COUNT (BYTES)
FPR3	ORMA FOR INTERRUPT ROUTINES
FPR4	CONSTANT (00000004)
FPR5	ORIGINAL HISTORY BYTE COUNT
FPR6	MULT INT IND. ORIG C/C BYTE CNT
FPR7	NOT USED

THE PURPOSE OF THE INSERT NEW DESC-  
RIPTOR ROUTINE WILL BE TO COMPUTE  
THE NUMBER OF NEW SYMBOLS THAT ARE  
TO BE INSERTED INTO THE NEW REFRESH  
AREA OF MEMORY AND CONSTRUCT A DESC-  
RIPTOR CONTAINING A BATCH NO AND A  
SYMBOL COUNT AND ADD IT TO THE NDT  
THE NEXT ORDER IN THE WCT TO BE  
ACCESSED WILL BE TAKEN FROM THE 18TH  
HALF WORD POSITION FROM THE GIVEN INS  
ORDER. EVERY INSERT ORDER WILL LIE ON  
A HALF WORD BOUND AND IS IMMEDIATELY  
FOLLOWED BY ITS OWN TABLE OF 16 BIN  
DISPLACEMENT VALUES

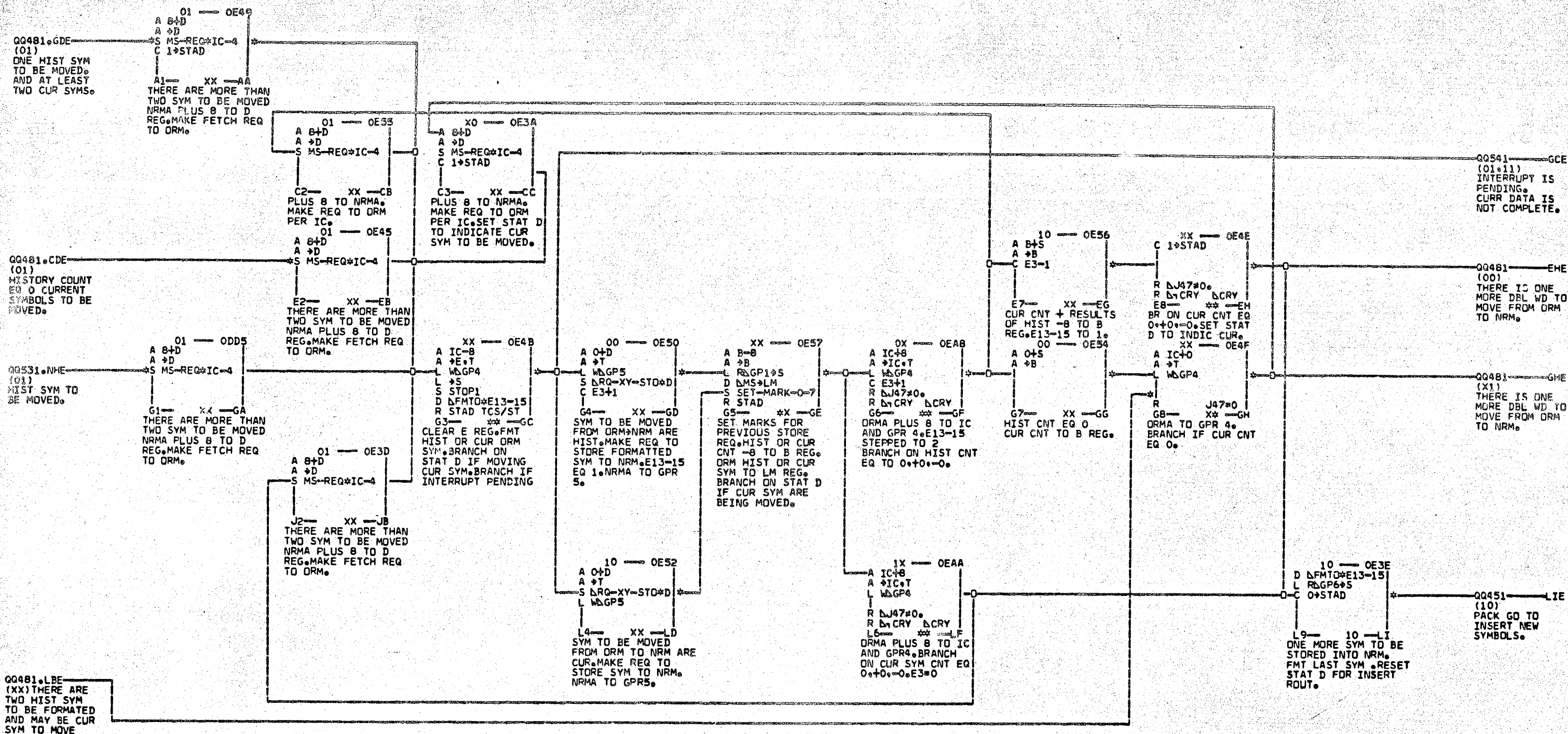
NEW SORT BIN ADDR IS IN BYTES 4 AND 5  
OF T REG. PUT 4 AND 5 INTO BYTES 6 AND  
7. CLEAR BYTES 4 AND 5 AND PUT T REG  
INTO GPR9. PUT THE TWOS COMPL OF BYTE  
6 OF SORT BIN START ADDR INTO BYTE 2  
OF THE S REG. STEP ARC AND STC TO 3.

00461.LIE  
(00.01.10)  
CONTINUE PROC  
INSERT ORDER.









# RPSB LOCAL STORAGE REGISTER ASSIGNMENTS.

GPR0	HISTORY SYMBOL COUNT
GPR1	CURRENT SYMBOL COUNT
GPR2	OLD DESCRIPTOR TABLE ADDRESS
GPR3	NEW DESCRIPTOR TABLE ADDRESS
GPR4	OLD REFRESH MEMORY ADDRESS
GPR5	NEW REFRESH MEMORY ADDRESS
GPR6	NEXT SORT BIN ADDRESS
GPR7	WORK CONTROL TABLE ADDRESS
GPR8	STATUS CODE (BITS 0-3) IRTX CODE (BITS 4-7) 2XBIN NO. (27-31)
GPR9	SORT BIN START ADDRESS (DISP)
GPR10	SORT BIN BASE ADDRESS
GPR11	NEW DSCRPTR TABLE PAGE ADDRESS
FPR0	ORMA FOR INTERRUPT ROUTINES
FPR1	DELETE ROUTINES WORK REG
FPR2	INSERT SYMBOL COUNT (BYTES)
FPR3	NRMA FOR INTERRUPT ROUTINES.
FPR4	CONSTANT (00000004)
FPR5	ORIGINAL HISTORY BYTE COUNT
FPR6	MULT INT IND. ORIG C/C BYTE CNT
FPR7	NOT USED

DURING THIS ROUTINE THE DESIGNATED NUMBER OF SYMBOLS AS PER HISTORY COUNT (2 PER DOUBLE WORD) ARE MOVED FROM OLD REFRESH TO NEW REFRESH. AS EACH SYMBOLS IS MOVED, THE BRIGHTNESS BIT FOR EACH SYMBOL IS RESET. AFTER COMPLETION OF THIS MOVE, THE ROUT WILL CONTINUE ON TO PROCESS CURRENT SYMBOLS. IF THE DELETE OPERATION HAS LEFT THE FIRST HISTORY SYMBOL TO BE MOVED ON AN ODD BOUNDARY, THE ROUT WILL TRANSFER THE FIRST SYMBOL AND ASSOCIATED CONTROL BITS FROM WD 2 TO WD 1. THE P2 BIT WILL BE RESET TO PREVENT THE DISPLAY OF WD 2. ALL THE REMAINING SYM WILL BE TRANSFERRED AS GIVEN EXCEPT THE BRIGHTNESS BITS WILL BE RESET. THE MOVING OF CURR SYM WILL NOT REQUIRE THE RESET OF THE BRIGHTNESS BITS.

713671

04/28/70

MACH  
NAME  
MODE  
P.N.

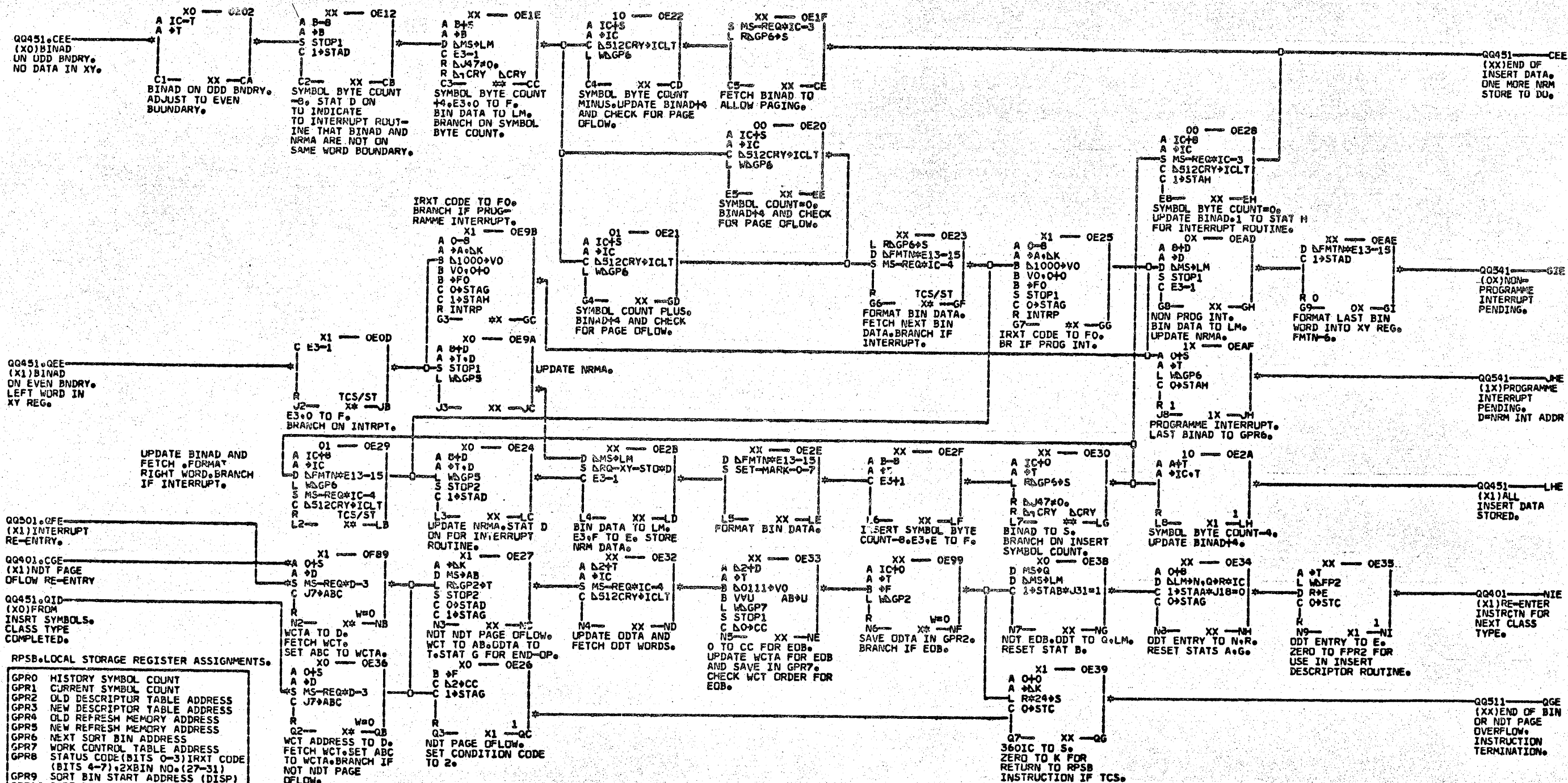
C7201-02  
MANUAL  
2583867

DATE 05/21/70  
LOG 048

SHEET 1 Q0491  
VERSION

REPACK SYMBOLS—MOVE OLD  
REFRESH MEM TO NEW REFRESH MEM





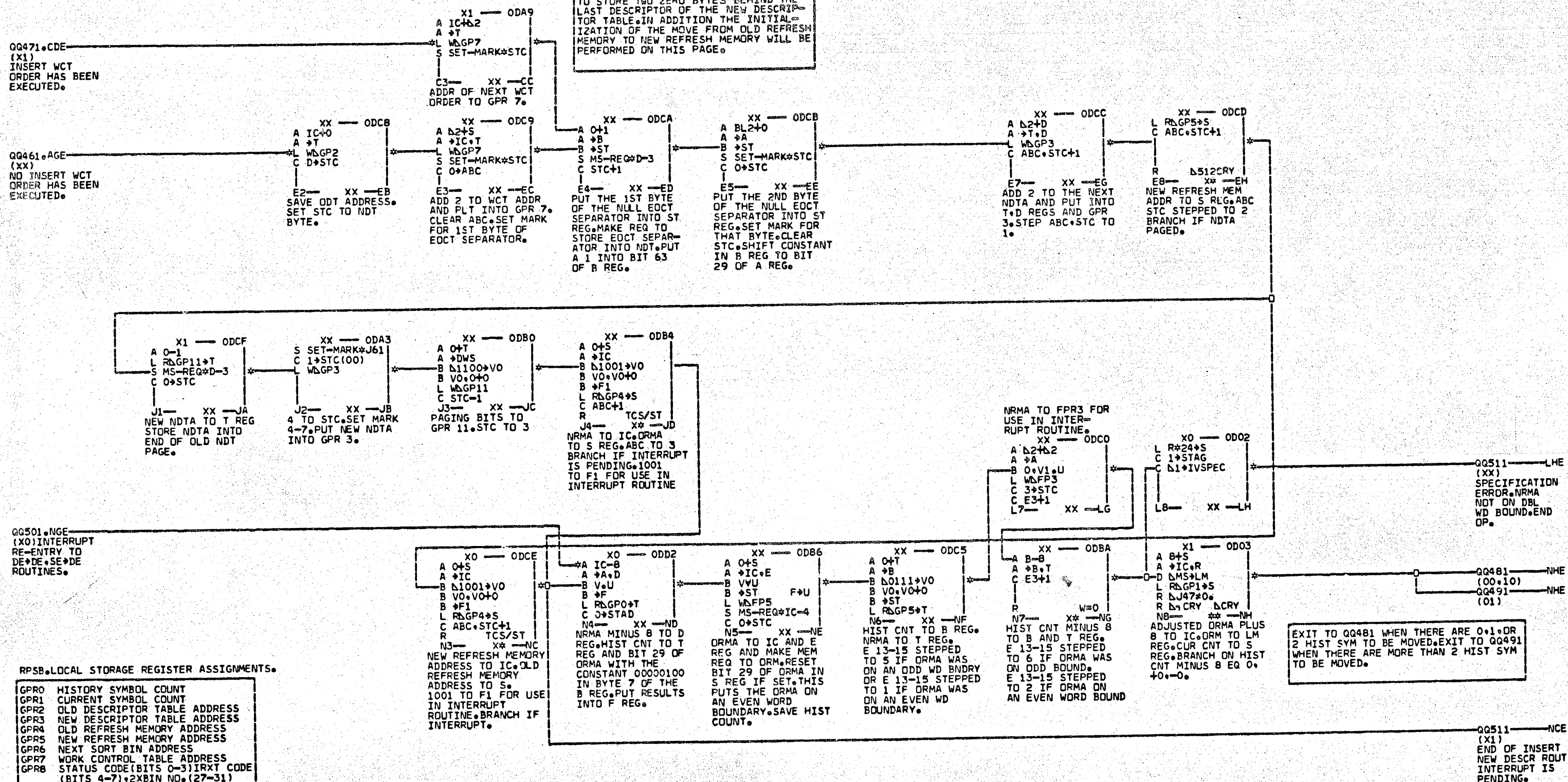
Q  
Q  
5  
2  
1



QQ471.CDE  
(X1)  
INSERT WCT  
ORDER HAS BEEN  
EXECUTED.

QQ461. AGE-----  
(XX)  
NO INSERT WCT  
ORDER HAS BEEN  
EXECUTED.

THE PURPOSE OF THIS EDCY ROUTINE IS TO STORE TWO ZERO BYTES BEHIND THE LAST DESCRIPTOR OF THE NEW DESCRIPTION TABLE. IN ADDITION THE INITIALIZATION OF THE MOVE FROM OLD REFRESH MEMORY TO NEW REFRESH MEMORY WILL BE PERFORMED ON THIS PAGE.



```

GPR0  HISTORY SYMBOL COUNT
GPR1  CURRENT SYMBOL COUNT
GPR2  OLD DESCRIPTOR TABLE ADDRESS
GPR3  NEW DESCRIPTOR TABLE ADDRESS
GPR4  OLD REFRESH MEMORY ADDRESS
GPR5  NEW REFRESH MEMORY ADDRESS
GPR6  NEXT SORT BIN ADDRESS
GPR7  WORK CONTROL TABLE ADDRESS
GPR8  STATUS CODE(BITS 0-3)IRXT CODE
      (BITS 4-7),2XBIN NO.(27-31)
GPR9  SORT BIN START ADDRESS (DISP)
GPR10 SORT BIN BASE ADDRESS
GPR11 NEW DSCRPTR TABLE PAGE ADDRESS
FPRO  ORMA FOR INTERRUPT ROUTINES
FPRI  DELETE ROUTINES WORK REG
FPRI  INSERT SYMBOL COUNT (BYTES)
FPRI  NRMA FOR INTERRUPT ROUTINES.
FPRI  CONSTANT (00000004)
FPRI  ORIGINAL HISTORY BYTE COUNT
FPRI  MULT INT IND.ORIG C/C BYTE CNT
FPRI  NOT USED

```

EXIT TO QQ481 WHEN THERE ARE 0,1,OR  
2 HIST SYM TO BE MOVED.EXIT TO QQ491  
WHEN THERE ARE MORE THAN 2 HIST SYM  
TO BE MOVED.

~~QQ511~~ NCE  
 (X1)  
 END OF INSERT  
 NEW DESCR ROUT  
 INTERRUPT IS  
 PENDING.

